

WHAT IS CLAIMED IS:

1. A magnetic component comprising:

a first monolithic core structure comprising a plurality of magnetic layers and at least one nonmagnetic layer separating one of said plurality of magnetic layers from another of said plurality of magnetic layers, and a first opening extending through said first core structure; and

a conductive element establishing a conductive path through said first opening, wherein said at least one nonmagnetic layer separates said conductive element from one of the magnetic layers.

2. A magnetic component in accordance with claim 1 wherein said conductive element comprises a rectangular conductor.

3. A magnetic component in accordance with claim 1 wherein said conductive element is formed on a surface of said first monolithic core structure.

4. A magnetic component in accordance with claim 1 wherein said first opening is substantially rectangular, said at least one nonmagnetic layer defining one side of said first opening.

5. A magnetic component in accordance with claim 1 wherein said first opening is substantially rectangular and said at least one nonmagnetic layer comprises a pair of nonmagnetic layers, said pair of nonmagnetic layers defining opposite sides of said first opening.

6. A magnetic component in accordance with claim 1 wherein said nonmagnetic layer extends substantially parallel to said magnetic layers.

7. A magnetic component in accordance with claim 1 wherein said conductive element comprises a plurality of sides and said opening comprises an inner surface defined by said magnetic layers and said at least one nonmagnetic layer, one of said sides of said conductive element extending upon said at least one nonmagnetic

layer and the remaining sides of said conductive element being spaced from said inner surface.

8. A magnetic component in accordance with claim 1 further comprising a second core structure monolithically formed with said first core structure, said second core structure comprising:

a plurality of magnetic layers and at least one nonmagnetic layer separating one of said plurality of magnetic layers from another of said plurality of magnetic layers; and

a second opening extending through said second core structure for passage of a conductive element.

9. A magnetic component in accordance with claim 8 further comprising an insulating layer monolithically formed with and separating said first core structure and said second core structure.

10. A magnetic component in accordance with claim 9 wherein said insulating layer extends substantially parallel to said magnetic layers.

11. A magnetic component in accordance with claim 9 wherein said insulating layer extends substantially perpendicular to said magnetic layers.

12. A magnetic component in accordance with claim 1 wherein said conductive element is in contact with and supported by said at least one nonmagnetic layer and otherwise substantially centered with respect to said first opening.

13. A magnetic component in accordance with claim 1 wherein said conductive element is located within said opening such that magnetic flux lines of the core structure do not intersect said conductive element.

14. A magnetic component in accordance with claim 1 wherein said conductive element is complementary in shape to said opening.

15. A magnetic component comprising:

a monolithic core comprising a first core structure and a second core structure separated by an insulating layer, each of said first and second core structures comprising a plurality of magnetic layers, at least one nonmagnetic layer separating one of said plurality of magnetic layers from another of said plurality of magnetic layers, and an opening extending therethrough for passage of a conductive element.

16. A magnetic component in accordance with claim 15 wherein said insulating layer extends substantially parallel to said magnetic layers of at least one of said first and second core structures.

17. A magnetic component in accordance with claim 15 wherein said insulating layer extends substantially perpendicular to said magnetic layers of at least one of said first and second core structures.

18. A magnetic component in accordance with claim 15 wherein said openings of said first and second core structure are substantially rectangular, said at least one nonmagnetic layer of each of said first and second core structures defining one side of said opening for each respective first and second core structure.

19. A magnetic component in accordance with claim 15 wherein said openings of said first and second core structures are substantially rectangular and said at least one nonmagnetic layer of each of said first and second core structures comprises a pair of nonmagnetic layers, said pair of nonmagnetic layers defining opposite sides of said opening for each respective first core structure and said second core structure.

20. A magnetic component in accordance with claim 15 further comprising a conductive element establishing a conductive path through each of said openings of said first core structure and said second core structure, wherein said at least one nonmagnetic layer of said first and second core structures separates said conductive element from one of the magnetic layers.